

In the Drawings:

The attached sheets of drawings include changes to FIGS. 4, 7G, 8B-8H, and 9B-9I.

Attachments: Replacement sheets

REMARKS

Applicants have amended the specification and drawings to correct typographical errors. No new matter was added.

Claims 13, 15-17, 20-23 and 25 stand rejected under 35 USC 103(a) over Huang (U.S. Patent Publication No. 2002/0113308) in view of Melton (U.S. Patent No. 6,194,250). Applicants respectfully traverse this rejection.

Applicants have amended claim 13 to recite “a substrate having a plurality of conductive traces; a plurality of balls disposed on a first surface of said substrate, such that said plurality of balls are electrically connected to said plurality of conductive traces; [and] a semiconductor die mounted to said substrate, such that said semiconductor die is electrically connected to said plurality of conductive traces of said substrate.” Neither Huang nor Melton, alone or in combination, discloses or suggest such features.

Initially, applicants note that neither Huang nor Melton discloses “a substrate having a plurality of conductive traces.” While the Examiner has asserted that the gold wires 22 of Huang may be commonly referred to as traces, the wires 22 are separate from the substrate 20. This separation is made clear in paragraph [0025] of Huang which discloses positioning the wires 22 near the substrate 20. Accordingly, Huang does not disclose a substrate “having” conductive traces, as recited in claim 13. As previously noted, Melton discloses a device which specifically teaches away from using a substrate, and therefore does not disclose specific features of a substrate. Because they fail to disclose a substrate having conductive traces, Huang and Melton also fail to disclose or suggest that a “semiconductor die is electrically connected to said plurality of conductive traces of said substrate.” Accordingly, claim 13 is allowable for at least these reasons.

Additionally, Huang and Melton fail to disclose or suggest “that said plurality of balls are electrically connected to said plurality of conductive traces,” as recited in claim 13 (previously recited in claim 21). The Examiner has cited Figures 1, 5 and 6, and paragraphs [0023] – [0046] of

Huang, and Figures 4-7, and col. 3, line 23, through col. 5, line 28, of Melton, as disclosing these features.

Initially, applicants respectfully note that the Examiner has failed to meet the duty to particularly point out where in the cited references the claimed features are allegedly disclosed. The Examiner's citations are overly broad (7 figures and over 4 pages of text) and require applicant to guess at what features in the references the Examiner is asserting as disclosing the recited features. Accordingly, should the Examiner not find applicants' remarks persuasive, applicants respectfully request an additional non-final Action specifically identifying where in the references the recited features are allegedly disclosed.

Additionally, neither Huang nor Melton discloses the above quoted features. As previously noted, Melton does not disclose a substrate (and actually teaches against the use of a substrate) and therefore cannot disclose that the plurality of balls are electrically connected to traces of the substrate. Furthermore, Huang specifically teaches that the solder balls 230 are not electrically connected to the gold wires 22 (which the Examiner has cited as disclosing the conductive traces of claim 13). As shown in Figs. 2, 3, 8 and 9 of Huang, the solder balls and/or pads 230 (as well as 204, 730 and 830) are positioned so as to not come in contact with the gold wires 22 (also 202 and 72). This is clearly described at paragraphs [0029] and [0043] of Huang, which state that the solder balls are positioned "in a manner as not to interfere or come in contact with the gold wires." Applicants respectfully submit that the Examiner appears to have misinterpreted the "sectional" view of Fig. 1 as disclosing a connection between the solder balls 230 and the gold wires 22.

Accordingly, claim 13 is allowable. Claims 15-17, 20, 22, 23 and 25 depend from allowable claim 13 and are allowable due at least to their respective dependencies.

Claim 23 stands rejected under 35 USC 103(a) on Huang in view of Melton and Huang II (U.S. Patent No. 6,707,167). Applicants respectfully traverse this rejection.

Huang II, which was cited as disclosing a die adapter, fails to overcome the deficiencies of Huang and Melton discussed above. Accordingly, claim 23 is allowable due at least to its dependency.

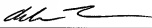
Applicants have added new claim 27 to round out the scope of the claims. None of the cited references discloses that “the semiconductor die is mounted to said substrate via a plurality of solder ball connections” as disclosed in applicants’ Fig. 10G and paragraph [0057].

Applicants solicit an early action allowing the claims.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, applicants petition for any required relief, including extensions of time, and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing Docket No. **618902002500**.

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Attachments